Amendments to the Specification:

Please amend the paragraphs indicated below to read as follows.

Page 9, lines 15-25:

The cationic lipids are also known and are commonly used as transporting agents for polynucleotides. There may be mentioned for example Lipofectin™ also known by the name DOTMA (N-[1-(2,3-dioleyloxy) propyl]-N,N,N-trimethylammonium chloride), DOTAP (1,2-bis(oleyloxy)-3-(trimethyl-ammonio)propane), DDAB (dimethyldioctadecylammonium bromide), DOGS (dioctadecylamidoglycyl spermine), and cholesterol derivatives, such as DC-CHOL [DC-chol] (3-beta-(N-(N',N'-dimethylaminoethane) carbamoyl) cholesterol). A description of these lipids is provided by EP 187,702, WO 90/11092, U.S. Patent No. 5,283,185, WO 91/15501, WO 95/26356, and U.S. Patent No. 5,527,928. The cationic lipids are preferably used with a neutral lipid such as DOPE (dioleylphosphatidylethanolamine) as is, for example, described in WO 90/11092.

Page 13, lines 16-26:

Useful liposomes for the purposes of the present invention can be selected in particular from pH-sensitive liposomes, such as those formed by mixing cholesterol hemisuccinate (CHEMS) and dioleyl phosphatidyl ethanolamine (DOPE); liposomes containing cationic lipids recognized for their fusiogenic properties, such as 3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol (DC-CHOL [DC-chol]) and its equivalents, which are described in U.S. Patent No. 5,283,185 and WO 96/14831, dimethyldioctadecylammonium bromide (DDAB) and the BAY compounds described in EP 91645 and EP 206 037, for example BAY R1005 [Bay R1005] (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate; and liposomes containing MTP-PE, a lipophilic derivative of MDP (muramidyldipeptide). These liposomes are useful for adding as adjuvant to all the immunogenic agents cited.

Page 13, line 27 - page 14, line 2:

E3 Useful ISCOMs for the purposes of the present invention can be selected in particular from those compounds of QuilA or of QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) combined with cholesterol and optionally also with a phospholipid such as phosphatidylcholine. These are particularly advantageous for the formulation of the lipid-containing antigens.

Page 14, lines 18-23:

E4 A useful adjuvant for the purposes of the present invention can also be a fraction derived from the bark of the South American tree *Quillaja Saponaria Molina*; for example, QS-21, a fraction purified by HPLC chromatography as is described in U.S. Patent No. 5,057,540. Since some toxicity may be associated with QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*), it may be advantageous to use the latter in liposomes especially based on sterol, as is described in WO 96/33739.

Page 19, lines 23 and 24:

E5 Other compounds, such as MPLA, PLGA, [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol), and QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) can also be used as adjuvants for the mucosal route.

Page 21, lines 6-11:

E6 Figure 3 refers to Example 1 and presents the levels of urease activity after a challenge, measured 4 hours after sacrificing mice which have received 3 times, on D0, D28, and D56: (a) a urease preparation encapsulated at about 80% in [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) liposomes, in the dorsolumbar muscles; or (b) a urease preparation with cholera toxin adjuvant, by the intragastric route. Experiments (c) and (d) correspond respectively to the positive and negative controls.

Page 21, lines 12-17:

Figure 4 refers to Example 1 and presents the levels of urease activity after a challenge measured 4 hours after sacrificing mice which have received 3 times, on D0, D28, and D56: (a) a urease preparation with cholera toxin adjuvant, by the intragastric route or (b) a urease preparation with QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) adjuvant, by the subcutaneous route in the left posterior sublumbar part. Experiments (c) and (d) correspond respectively to the positive and negative controls.

E7

Page 22, lines 2-10:

Figures 6A and 6B show the urease activity (Figure 6A) measured after 4 hours (OD_{550} nm) using the Jatrox test (Procter & Gamble) and the bacterial load in mice infected with *H. pylori* and then submitted to various treatments A - H [A: LT + urease, orally; B: QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) + urease, parenterally in the neck; C: QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) + urease, parenterally in the lumbar region; D: QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) alone, sub-cutaneously in the lumbar region; E: [Bay R1005] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate + urease, parenterally in the neck; F: Bay R1005 + urease, parenterally in the lumbar region; G: [Bay R1005] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate alone, sub-cutaneously in the lumbar region (control); H: saline, sub-cutaneously in the lumbar region (positive control)]. I represents the negative control.

E8

Page 22, line 20 - page 23, line 1:

Figure 8 shows the effect of urease immunization on experimental challenge of rhesus monkeys with *H. pylori*. Monkeys were immunized with urease by parenteral routes (100 µg urease + 1 mg alum or 800 µg [Bay] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) or by a mucosal prime (orally administered 4 mg urease +100 µg LT)/parenteral boost (urease + alum) strategy with 3 doses administered every 3 weeks followed by a fourth dose administered 20 weeks after the first priming dose. Monkeys were challenged one week after the last booster dose. The monkeys

E9

were euthanized 10 weeks after challenge, 10 punch biopsies per animal were harvested from the stomach and cultured to determine *H. pylori* colonization. Each symbol above represents the mean CFU of 10 sites cultured per monkey. The line represents the median CFU for the treatment group.

E9

Page 25, lines 5-23:

[DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) liposomes containing urease are prepared as follows: first of all, to obtain a dry lipid film containing 100 mg of [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) (R-Gene Therapeutics) and 100 mg of DOPC (dioleylphosphatidylcholine) (Avanti Polar Lipids), these products are mixed in powdered form in about 5 ml of chloroform. The solution is allowed to evaporate under vacuum using a rotary evaporator. The film thus obtained on the walls of the container is dried under high vacuum for at least 4 hours. In parallel, 20 mg of a urease lyophilisate and 100 mg of sucrose are diluted in 13.33 ml of 20 mM Hepes buffer pH 7.2. Ten ml of this preparation (which contains 1.5 mg of urease and 0.75% sucrose) is filtered on the 0.220 µm Millex filter and then used to rehydrate the lipid film. The suspension is stirred for 4 hours and then either extruded (10 passes on a 0.2 µm polycarbonate membrane) or microfluidized (10 passes at a pressure of 500 kPa in a Microfluidics Co Y10 microfluidizer). In the liposome suspension thus obtained, the level of encapsulated urease is from 10 to 60%. This suspension is lyophilized after having adjusted the sucrose concentration to 5% (425 mg of sucrose are added per 10 ml). Before use, the lyophilisate is taken up in an appropriate volume of water or buffer and the suspension is purified on a discontinuous sucrose gradient (steps of 0, 30, and 60%) so as to obtain a preparation in which the quantity of encapsulated urease is greater than about 70% compared with the total quantity of urease.

E10

Page 25, lines 26 and 27:

The QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) (Cambridge Biosciences; Aquila) is used as adjuvant in an amount of 15 µg/dose of urease.

E11

Page 28, lines 18-20:

F12

Figure 3 shows that a urease preparation encapsulated into [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) liposomes and administered by the subcutaneous route in the sublumbar region gives results as good as those obtained in the standard reference experiment.

Page 30, lines 22-25:

F13

The *E. coli* heat-labile toxin (LT) (Sigma) or the B subunit of the cholera toxin (CTB) (Pasteur Mérieux sérums & vaccins) was used as mucosal adjuvant whereas [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) was used as parenteral adjuvant. [DC-chol] DC-CHOL (3-beta-(N-(N',N'-dimethylamino-ethane)carbamoyl)cholesterol) powder is simply rehydrated with an antigen preparation.

Page 33, line 28 - page 34, line 12:

F14

OF1 mice were infected with 10^6 colony-forming units (cfu) of the *H. pylori* strain ORV2001. After one month, verification that the infection was well-established was made by randomly sacrificing 10/100 mice and testing the urease activity on a quarter of the entire stomach. Since all of the results were positive, the mice were then immunized (10 per group) 3 times at 3 weekly intervals, either subcutaneously using 10 µg of recombinant urease supplemented with 15 µg of QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*) (Aquila) or 400 µg of adjuvant [Bay R1005] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) (Bayer), or orally using 40 µg of urease mixed with 1 µg of LT. For each of the two adjuvants administered parenterally, the immunization was carried out either in the neck, in order to reach the lymphatic ganglions of the upper region of the body, or in the lumbar region, in order to reach the abdominal lymphatic ganglions. Ten mice were left uninfected and unimmunized (negative control), whereas the mice of the positive control received a saline solution, QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*), or [Bay] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) adjuvant subcutaneously (lumbar region).

Page 34, lines 13-23:

One month after the third immunization, all of the mice were sacrificed and the stomachs removed to evaluate the extent of the colonization by measuring the urease activity (10/10 mice were analyzed in each group), as well as by carrying out quantitative culturing (5/10 were analyzed). Figures 6A (test relating to urease) and 6B (culturing) show that in the mice immunized with urease supplemented with QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*), subcutaneously in the lumbar region, the infection had virtually disappeared (4/5 mice were negative in quantitative culturing). The mice immunized with urease subcutaneously in the neck, in the presence of QS-21 (purified fraction of saponin extracted from *Quillarja Saponaria Molina*), and the mice that received urease plus LT orally exhibited a 10- to 100-fold decrease in the infection when compared with the unimmunized mice. The [Bay] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) adjuvant induced an identical decrease, which was more pronounced in the mice immunized in the lumbar region.

E15

Page 37, lines 2-8:

In contrast to the monkeys receiving the mucosal prime/parenteral boost regimen, monkeys immunized by the parenteral route with urease + [Bay] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate) showed no difference in *H. pylori* colonization compared with the sham-immunized controls ($p = 1.00$), while monkeys treated with urease + alum showed a partial effect ($p=0.33$) (Figure 8). Culture data was unavailable for one of the monkeys in the group receiving urease + [Bay] BAY R1005 (N-(2-deoxy-2-L-leucylamino-beta-D-glucopyranosyl)-N-octa-decyldodecanoylamide acetate), due to heavy contamination of gastric samples with other bacteria.

E16